

In the claims:

Claim 1 (withdrawn): A method for improving the bond strength between at least two heat deformed thermoplastic sheets forming a unitary structure, the method comprising:

extruding a continuous web of thermoplastic having a top surface and a bottom surface;

conveying the continuous web of thermoplastic through a down-stream work station scuffing the top surface, wherein the top surface is characterized having increased surface area relative the bottom surface;

shearing the continuous web of thermoplastic providing a plurality of sheets having scuffed top surfaces;

thermoforming simultaneously at least a first sheet over a first mold and a second sheet over a second mold upon a machine frame; and

compressing a heated first sheet against a heated second sheet between the first mold and the second mold upon the machine frame to bond the scuffed top surface of the first sheet to the smooth surface of the second sheet.

Claim 2 (withdrawn): The method of claim 1 wherein three scuffed sheets are thermoformed simultaneously and compressed sequentially upon a machine frame to provide a unitary triple sheet structure.

Claim 3 (withdrawn): The method of claim 1 wherein the continuous web of thermoplastic is conveyed through at least one down-stream workstation whereby the top and bottom smooth surfaces of said continuous web are scuffed increasing the surface areas thereof.

Claim 4 (withdrawn): An article of the method of claim 3 characterized in that the article is a thermoformed plastic pallet.

Claim 5 (withdrawn): An article made in accordance with the procedure comprising:

(a) extruding a continuous web of thermoplastic having a top surface and a bottom surface;

(b) conveying the continuous web of thermoplastic through a scuffing work station where after the top surface is characterized having increased surface area relative the bottom surface;

(c) shearing the continuous web of thermoplastic providing a plurality of sheets having scuffed top surfaces;

(d) heating a first sheet;

(e) forming the first sheet with a first mold;

(f) heating a second sheet;

(g) forming the second sheet with a second mold;

(h) aligning the first mold with the second mold so a scuffed top surface of the first sheet faces a bottom surface of the second sheet:

(i) moving the first mold toward the second mold; and

(j) joining together sections of the scuffed top surface of  
20 the first sheet with sections of the bottom surface of the second  
sheet to form a twin sheet subassembly.

Claim 6 (withdrawn): An article made in accordance with claim 5  
2 wherein the thermoplastic is composed of a polyolefin resin.

Claim 7 (withdrawn): An article made in accordance with claim 5  
2 wherein after step (j) the method further comprises:

(k) heating a third sheet;

4 (l) forming the third sheet with a third mold;

(m) aligning the third mold with the twin sheet assembly;

6 (n) moving the twin sheet assembly toward the third mold;

and,

8 (o) joining together sections of a scuffed top surface of  
the twin sheet assembly with sections of the bottom surface of  
10 the third sheet to form a triple sheet article.

Claim 8 (withdrawn): An article made in accordance with claim 5  
2 wherein at least one exposed surface of the article is scuffed  
providing a high coefficient of friction skid resistant surface.

Claim 9 (withdrawn): An article made in accordance with claim 5  
2 wherein after the step (e) a rigid member is positioned over the  
first sheet prior to the step (j) to form a rigidified twin sheet  
4 assembly.

Claim 10 (withdrawn): An article made in accordance with claim 7  
wherein after the step (j) a rigid member is positioned over the  
twin sheet assembly prior to the step (o) to form a rigidified  
triple sheet article.

Claim 11 (previously presented): An article resistant to fire and  
the heat of fire, the article comprising:

a first sheet of co-extruded thermoformable plastic,  
comprising a surface layer of an intumescent polyolefin  
composition resistant to fire and a substrate layer of a  
polyolefin resin, molded over a first mold to provide a first  
member;

a second sheet as in the first sheet molded over a second  
mold to provide a second member;

a third member of molded plastic composed of polyolefin  
resin comprising an array of upward extending ribs, an array of  
downward extending channels and between the ribs and channels  
hollow areas providing dead air space;

the third member being compressed between the first and  
second sheets to provide a rigid unitary structure wherein upper  
surfaces of the ribs bond to the substrate layer of the first  
sheet and lower surfaces of the channels bond to the substrate  
layer of the second sheet;

the surface layers of the intumescent polyolefin  
compositions of the first and second sheets being exteriorly  
visible preventing the substrate layers from supporting a flame

22 upon exposure to fire; and

the surface layers of the intumescent polyolefin  
24 compositions of the first and second sheets in combination with  
the dead air space insulating the third member, the insulated  
26 third member resisting the heat of the fire to remain rigid.

Claim 12 (previously presented): An article as in claim 11  
2 wherein the third member includes additives imparting high  
temperature strength.

Claim 13 (previously presented): An article as in claim 11  
2 wherein the article is a material handling apparatus.

Claim 14 (previously presented): An article as in claim 11  
2 comprising a wireless communications device, the device being  
adapted to transmit an emergency signal to a remote monitoring  
4 station when said article is exposed to fire or the heat of fire.

Claim 15 (previously presented): A material handling apparatus  
2 comprising:

an electronic device, the electronic device comprising at  
4 least a wireless communicator interfacing with a remote station,  
thermographic instrumentation developed to monitor external  
6 temperature, and circuitry integrating the communicator to the  
instrumentation;

8 the thermographic instrumentation responding to variation in  
external temperature indicative of a fire by actuating circuitry,  
10 the circuitry triggering communicator to send an emergency signal  
to the remote station, the remote station thereby being alerted  
12 to heat indicative of fire.

Claim 16 (previously presented): A material handling apparatus as  
2 in claim 15 wherein the electronic device has at least one supply  
of power, the at least one supply of power being derived from a  
4 solar battery positioned externally upon a surface of said  
material handling apparatus.

Claim 17 (previously presented): A material handling apparatus as  
2 in claim 15 wherein the thermographic instrumentation includes a  
thermoscopic sensor, the sensor being exteriorly positioned to  
4 monitor temperature variation.

Claim 18 (previously presented): A material handling apparatus as  
2 in claim 15 wherein the electronic device is mounted upon a plate  
for remote attachment to an external surface of the material  
4 handling apparatus exposed to fire and the heat of fire.

Claim 19 (original): A fire resistant pallet comprising:  
2 a pallet assembly; and  
a fire resistant layer formed upon an exterior of said  
4 pallet assembly.

Claim 20 (amended): ~~The~~ A fire resistant pallet according to  
2 claim 19 wherein said pallet assembly is made of a polyolefin  
resin and wherein said fire resistant layer is made of an  
4 intumescent polyolefin material, said pallet assembly and said  
fire resistant layer being co-extruded.

Claim 21 (amended): ~~The~~ A fire resistant pallet according to  
2 claim 20 wherein said intumescent polyolefin material is disposed  
only on an exterior of said pallet assembly.

Claim 22 (amended): ~~The~~ A fire resistant pallet according to  
2 claim ~~19~~ 20 wherein said pallet assembly comprises:

4 a pallet shell having a first shell half formed from a first  
member and a second shell half formed from a second member; and

6 a support structure disposed between and instantly fused to  
said first shell half and said second shell half to provide  
support to said pallet shell, said support structure extending  
8 across a length of at least one of said first shell.

Claim 23 (amended): ~~The~~ A fire resistant pallet according to  
2 claim 19 wherein said fire resistant layer comprises:

4 an intumescent polyolefin composition resistant to fire,  
said intumescent polyolefin composition being co-extruded with at  
least a portion of said pallet assembly.

Claim 24 (previously presented): A fire resistant pallet  
2 comprising:

4 at least a first layer of moldable intumescent material and  
a second layer of moldable polyolefin material, the first and  
second layers being co-extruded together prior to being molded  
6 into said fire resistant pallet.

Claim 25 (amended): ~~The~~ A fire resistant pallet of claim 24  
2 wherein the moldable intumescent material of the first layer  
contains a polyolefin material of the second layer.



Claim 26 (previously presented): A fire resistant pallet  
2 comprising:

a moldable mixture of intumescent materials comprising a  
4 polyethylene resin.

Claim 27 (amended): ~~The~~ A fire resistant pallet of claim 26  
2 wherein the moldable mixture of intumescent materials in a sheet  
construction has a 4:1 draw ratio to form a deep leg pocket.

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